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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/769,805	02/03/2004	Keishi Tamura	1309.43490X00	9553

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EXAMINER
PATEL, HETUL B

ART UNIT	PAPER NUMBER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

	Application No.	Applicant(s)
Office Action Summary	10/769,805	TAMURA ET AL.
	Examiner	Art Unit	
	Hetul Patel	2186	

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>03</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on <u>27 August 2007</u>.

2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) *1-7* is/are pending in the application.

   4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☒ Claim(s) *5* is/are allowed.

6) ☒ Claim(s) *1-4, 6 and 7* is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.

   Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

   Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

   a) ☐ All b) ☒ Some * c) ☐ None of:

   1. ☒ Certified copies of the priority documents have been received.

   2. ☐ Certified copies of the priority documents have been received in Application No. _____.

   3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

   * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1.   This office action is in response to the amendment filed on April 30, 2007.

Claims 1-2 and 4-7 are amended and none of the claims are cancelled or newly added.

Therefore, claims 1-7 are pending in this application.

2.   Applicant's arguments with respect to claims 1-4 and 6-7 have been considered

but are moot in view of the new ground(s) of rejection.

Priority

3.   Acknowledgment is made of applicant's claim for foreign priority based on an

application filed in Japan on September 29, 2003. It is noted, however, that applicant

has not filed a certified copy of the Japanese Application 2003-337239 as required by

35 U.S.C. 119(b).

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4.   Claims 1-4 and 6-7 are rejected under 35 U.S.C. 102(e) as being anticipated by

Waldspurger et al. (USPN: 6,725,289) hereinafter, Waldspurger.

        As per claim 1, Waldspurger teaches a system (i.e. the system shown in Fig. 2)

having a first controller (i.e. 520 in Fig. 2) of a virtualization system (i.e. 500 in Fig. 2)

and a second controller (i.e. 610 in Fig. 2) of a disk array system (i.e. 605 in Fig. 2), said

second controller being coupled to said first controller, said system performing data

processing according to a request from a host device (i.e. 530 in Fig. 2),

-       wherein said first controller conducts mapping such that relations between at

        least one first logical unit accessed by said host device and at least one

        intermediate logical device are set (i.e. mapping between VPN and PPN is

        performed; see Fig. 2),

-       wherein said intermediate logical device is related to a second logical unit of said

        second controller by a virtualization setting function of said first controller (i.e.

        mapping between PPN and MPN is performed; see Fig. 2),

-       wherein said first logical unit is related to a first logical unit number (LUN) (i.e.

        VPN),

-       wherein said second logical unit is related to a second LUN (i.e. MPN), and

-       wherein said first and second logical unit numbers are different from each other

        and become related according to the mapping (i.e. VPN and MPN are different

        but becomes related after two mappings) (see Fig. 2).

        As per claim 2, see arguments with respect to the rejection of claim 1. Claim 2 is

also rejected based on the same rationale as the rejection of claim 1.

As per claim 3, Waldspurger teaches the claimed invention as described above

and furthermore, Waldspurger teaches that the intermediate logical device (i.e. 26a-26n

in Fig. 1) is constructed by arranging at least one level of a first memory (i.e. 112 in Fig.

2), and at least one level of a second memory (i.e. 512 shown in Fig. 2) hierarchically

arranged at a level above the at least one level of first memory, and wherein a memory

device (i.e. 612 in Fig. 2) in the second controller is mapped to the at least one level of

first memory (e.g. see Fig. 2).

As per claim 4, Waldspurger teaches the claimed invention as described above

and furthermore, Waldspurger teaches that the said first controller further comprises a

plurality of said logical units (i.e. different regions of 112 in Fig. 2) which can be

accessed from said host device (i.e. 530 in Fig. 2) through plural paths different from

each other, wherein each of said logical units is related to each of said at least one

intermediate device (i.e. by mapping 612 in Fig. 2).

As per claim 6, Waldspurger teaches a control method of a system (i.e. the

system shown in Fig. 2) having a first controller (i.e. 520 in Fig. 2) of a virtualization

system (i.e. 500 in Fig. 2) and a second controller (i.e. 610 in Fig. 2) of a disk array

system (i.e. 605 in Fig. 2), said second controller being coupled to said first controller

(see Fig. 2), said control method performing data processing according to a request

from a host device, comprising the steps of: wherein said first controller conducts

mapping such that relations between at least one first logical unit (i.e. 512 and 540 that

uses VPN in Fig. 2) accessed by said host device and at least one intermediate logical

device (i.e. by mapping 510 in Fig. 2) are set, wherein said intermediate logical device is

related to a second logical unit of said second controller by a virtualization setting

function (i.e. by mapping between PPN and MPN ; see 612 in Fig. 2) of said first

controller, wherein said first logical unit is related to a first logical unit number (LUN) (i.e.

VPN in Fig. 2), and wherein said second logical unit is related to a second LUN (i.e.

MPN in Fig. 2); obtaining path information to a memory device arranged in said second

controller; and mapping said obtained path information to said intermediate logical

device connected to said at least one logical unit accessed by said host device (e.g. see

Fig. 2).

As per claim 7, see arguments with respect to the rejection of claims 6. Claim 7

is also rejected based on the same rationale as the rejection of claim 6.

Allowable Subject Matter

5.   Claim 5 is allowed.

6.   The following is a statement of reasons for the indication of allowable subject

matter: The prior arts of record fail to teach or suggest the limitation of having the path

information obtaining means wherein the path information is recognized as path

information to the same memory device when said obtained path information exists in

plural.

Conclusion

7.   The prior art made of record and not relied upon is considered pertinent to

applicant's disclosure.

> ➤ D'Errico (USPN: 6,216,202) discloses having a plurality of logical, virtual
>   and physical volumes and plurality of paths accessing them

8.   Applicant's amendment filed on 04/30/2007 necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL.** See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hetul Patel whose telephone number is 571-272-4184. The examiner can normally be reached on 8:00 - 5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matt Kim can be reached on 571-272-4182. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/HBP/
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